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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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10/689,316

10/20/2003

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11/17/2008

EXAMINER

HYUN, PAUL SANG HWA

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|------------------------------------|--|
| Office Action Summary | Application No. 10/689,316 | Applicant(s) HILL ET AL. | |
| | Examiner PAUL S. HYUN | Art Unit 1797 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 October 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on October 15, 2008 has been entered.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim **10** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In the remarks, Applicant noted that the claim is intended to invoke 35 U.S.C. 112, 6th paragraph. It should be noted that the claim language does not properly invoke 35 U.S.C. 112, 6th paragraph because the claim specifies the structure of the claimed means. Specifically, in section (a) of the claim, the claim identifies the “means for detecting” as a fluorometer. In sections (b) and (c), the claim specifies the structure of the two separate “means for holding the water sample”. For the foregoing reason, the means plus function limitations recited in the claim will not be interpreted in accordance with 35 U.S.C. 112, 6th paragraph.

Claim Rejections - 35 USC § 103

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim **10** is rejected under 35 U.S.C. 103(a) as being unpatentable over Greenbaum et al. (US 2002/0102629 A1) in view of Brigante (US 4,347,133), Kolber et al. (US 4,942,303) Shah et al. (US 5,645,799) and Fiddian-Greene et al. (US 6,029,076).

Greenbaum et al. disclose a device for detecting the photosynthetic activity of organisms as well as the presence of toxins in water samples. The device comprises an inlet 20 for continuously introducing a sample of water into a cell 14, an outlet 28 for discharging the sample, and a fluorimeter 12 situated in the cell (see Fig. 4). The device further comprises an electronics package 30 that analyzes data from the fluorimeter and wirelessly transmits the results. The device disclosed by Greenbaum et al. differs from the claimed invention in that Greenbaum et al. do not disclose 1) the claimed first

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reservoir, 2) the claimed second reservoir, 3) an air purge tube, or 4) an electronics package configured to control the sampling rate as claimed.

With respect to the claimed first reservoir, Brigante discloses a device for sampling water (see Abstract). The reference discloses that damage to water sampling equipments can be reduced by minimizing the amount of sediment processed by the equipments (see line 60, col. 4-line 31, col. 5). To minimize the amount of sediment processed by the device, the device disclosed by Brigante comprises a holding tank that is connected to a water conditioning unit. The holding tank enables sediments taken up by the device to settle before the water sample is processed by the conditioning unit. The device further comprises a valve for expelling the sediments, and a filter situated between the holding tank and the water conditioning unit to prevent any sediment from entering the water conditioning unit (see claim 1). In light of the disclosure of Brigante, it would have been obvious to one of ordinary skill in the art to provide the device disclosed by Greenbaum et al. with a holding tank similar to the one disclosed by Brigante to minimize the amount of sediment processed by the device.

With respect to the claimed second reservoir, Kolber et al. disclose a device for sampling water to analyze the activity of photosynthetic organisms (see lines 21-43, col. 9). The device is capable of measuring the turnover times of photosynthetic organisms in either dark or ambient conditions (see lines 45-49, col. 1). The device comprises a pipe leading to an opaque chamber where fluorescence measurements are made by a fluorimeter. To measure the turnover times of the photosynthetic organisms under dark condition, the length of the pipe leading to the opaque chamber is made sufficient to

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enable the organisms to dark adapt. In light of the disclosure of Kolber et al., and given that the device disclosed by Greenbaum et al. is configured to analyze the fluorescence of photosynthetic organisms in water, it would have been obvious to one of ordinary skill in the art to provide an opaque reservoir to the Greenbaum et al. device to enable the photosynthetic organisms to dark adapt prior to analysis.

With respect to the air purging means, Shah et al. disclose a water sampling unit comprising an air purging valve that continuously removes air from a water sampling chamber (see claim 2). In light of the disclosure of Shah et al., it would have been obvious to one of ordinary skill in the art to provide the reservoirs of the modified Greenbaum et al. device with an air purging tube that can continuously remove air entrapped in the reservoirs.

With respect to the electronics package configured to control the sampling rate, Fiddian-Greene et al. disclose an analyzer that conducts continuous fluid sampling (see lines 20-25, col. 6). The reference discusses that the rate at which the sample can be analyzed continuously is limited by the rate at which the sample equilibrates (see lines 50-60, col. 6). In light of the disclosure of Fiddian-Greene et al., it would have been obvious to one of ordinary skill in the art to configure the electronics package disclosed by Greenbaum et al. to control the sampling rate such that fresh sample being introduced into the holding chamber constitutes less than 10% of the total sample volume to ensure proper equilibration of the freshly collected water sample.

Response to Arguments

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Applicant's arguments with respect to claim 10 have been considered but are moot in view of the new ground of rejection. The amendment necessitated the new ground of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PAUL S. HYUN whose telephone number is (571)272-8559. The examiner can normally be reached on Monday-Friday 8AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on (571)-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Paul S Hyun/
Examiner, Art Unit 1797

/Jill Warden/
Supervisory Patent Examiner, Art Unit 1797

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